PATENT APPLICATION

RESPONSE UNDER 37 CFR §1.116
EXPEDITED PROCEDURE
TECHNOLOGY CENTER ART UNIT 1795

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Toshiyuki INAGAKI

Group Art Unit: 1795

Application No.: 10/582,673

Examiner: B. SUITTE

Filed: June 22, 2006

Docket No.: 128357

For: FUEL CELL STACK STRUCTURE WITH AN ADHESIVE LAYER

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Claims 27–39 are pending in this application. In reply to the April 2, 2009 Office Action, and in consideration of the June 2, 2009 personal interview, reconsideration of the rejection is respectfully requested in light of the following remarks.

Applicant appreciates the courtesies shown to Applicants' representatives by Examiners Suitte and Yuan in the June 2, 2009 personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

The Office Action rejects claims 27–31, 35, 38 and 39 under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. 2001/0049047 (Mizuno) in view of U.S. Patent Application Publication No. 2003/0170450 (Stewart). Applicant respectfully traverses the rejection.

The applied references fail to disclose and would not have rendered obvious "wherein the adhesive layer has a Young's modulus within the range of 30 MPa to 100 MPa," as recited in claim 27. The Office Action concedes that Mizuno fail to disclose the above feature (Office Action, page 3). The Office Action alleges that the combination of Stewart with Mizuno allegedly cures this deficiency. Applicant respectfully asserts the combination of Mizuno with Stewart is improper and does not cure the deficiency of Mizuno.

As discussed during the June 2, 2009 personal interview, Mizuno discloses that the peeling strength of an adhesive used in a fuel cell must be at least greater than 0.4 kg/cm (Mizuno at paragraph [0064]). Additionally, Mizuno recites, "the adhesive used for bonding the electrolyte film 21 to the separators 24 and 25 has the modulus of elasticity of not greater than 10 MPa or more preferably not greater than 5 MPa" (Mizuno at paragraph [0069]). Importantly, Mizuno further recites "[a]nother adhesive may, however, be used for the same purpose, as long as the adhesive has the modulus of elasticity of not greater than 10 MPa or more preferably not greater than 5 MPa after cure," (emphasis added) (Mizuno at paragraph [0078]). The discussion in paragraph [0078] does not merely discuss one embodiment, or one preferred embodiment, but discloses that the any adhesive used must have a modulus of elasticity (i.e., Young's modulus) of no greater than 10 MPa.

Based on Mizuno's full disclosure, Mizuno clearly teaches away from using an adhesive with a Young's modulus within the range of 30 MPa to 100 MPa, as recited in claim 27, because Mizuno stresses to not use an adhesive in a fuel cell with a modulus of elasticity greater than 10 MPa. *See* 2141.02(VI). Further, because Mizuno discloses that the peeling strength of an adhesive must be at least greater than 0.4 kg/cm, using an adhesive with Young's modulus within the range of 30 MPa to 100 MPa that results in a peeling strength lower than 0.4 kg/cm would render Mizuno's fuel cell unsatisfactory for its intended purpose. *See* MPEP §2143.01(V).

Although Stewart discloses a thermoplastic adhesive with a Young's modulus of 70 to 300 MPa (Stewart, paragraph [0189]), a skilled artisan would not consider combining the thermoplastic adhesive in Stewart with the fuel cell in Mizuno based on Mizuno clearly teaching away from using such an adhesive and disclosing that such an adhesive would render the fuel cell unsatisfactory for its intended purpose. Accordingly, the Office Action fails to establish a *prima facie* case of obviousness (*see* MPEP §2141.02(VI)). Thus, claim 27 is patentable over Mizuno in view of Stewart.

Claims 28–31, 35, 38 and 39 are also patentable for at least the same reasons, as well as for the additional features the claims recite. Applicant respectfully requests withdrawal of the rejection.

The Office Action rejects claims 32–34 under 35 U.S.C. §103(a) over Mizuno and Stewart in view of U.S. Patent No. 6,316,139 (Uchida), and rejects claims 36 and 37 under 35 U.S.C. §103(a) over Mizuno and Stewart in view of U.S. Patent Application Publication No. 2004/0142226 (Yamauchi). Applicant respectfully traverses the rejections.

These rejections are based on the allegation that Mizuno in view of Stewart disclose or would have rendered obvious all of the features of claim 27. Because, as discussed above, Mizuno in view of Stewart do not disclose and would not have rendered obvious all of the features of claim 27, the rejections are improper. Applicant respectfully requests withdrawal of the rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Date: June 9, 2009

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